UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,476	08/30/2001	Cliff Zitlaw	400.125US01	9314

27073 7590 11/05/2004	EXAMINER
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MINNEAPOLIS, MN 55458-1009	2186	

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/943,476	ZITLAW, CLIFF
	Examiner	Art Unit	
	Woo H. Choi	2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>09 September 2004</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-21</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-21</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>18 August 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.   Claims 1 – 21 are provisionally rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1 - 20 of copending

Application No. 09/943475 in view of Baltz.

3.   Independent claims 1, 6, 19 and 20 of the copending Application claim all of the

limitations of claims 1, 6, 19, and 20 of the instant Application with the following exceptions:

transferring of data during power-up without control from the processor, and

detecting power-up condition with a reset controller.

Clam 16 of the copending Application claims all of the limitations of claim 11 with the exception

of a direct data transfer between the memories. On the other hand, Baltz discloses a method of

directly transferring data from a non-volatile memory to a volatile memory during power up

without control from the processor (abstract). The reset signal is externally supplied in Baltz's

invention (see col. 1, lines 25 – 29, figures 1A, 4A, 7, 8, reset 76).

It would have been obvious to one of ordinary skill in the art, having the teachings of

Applicant's copending claims and Baltz before him at the time the invention was made, to use

the bootstrapping from an external source teachings of Baltz's system in the copending invention

of Applicant, in order to reduce internal memory requirements on a microprocessor chip in a

processor with embedded memory.

4.   As to the dependent claims, while not all of them are identical, different combinations of

dependent and independent claims with varying degrees of details in the copending application

encompass subject matters claimed in the instant application.

This is a <u>provisional</u> obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1 – 3, 5, 11, 12, 15, 18 and 21 are rejected under 35 U.S.C. 102(e) as being

anticipated by Baltz (US Patent No. 6,058,474, hereinafter "Baltz").

7.   With respect to claims 1 and 21, Baltz discloses a processing system (figure 8)

comprising:

        a processor (10);

        a volatile memory device (23 and 100) coupled to communicate with the processor; and

        a non-volatile memory device (671) coupled to the processor and connected to the

volatile memory device, wherein the non-volatile memory device transfers data directly to the

volatile memory device during power-up without control from the processor (col. 7, lines 46 –

60, see also abstract).

8.   With respect to claim 2, the volatile memory device initiates the data transfer in response

to a reset signal (abstract).

9.   With respect to claim 3, the volatile memory device provides a system reset signal to the

processor after the data is transferred from the non-volatile memory device (col. 7, lines 56 –

60).

10.   With respect to claim 5, the volatile memory device initiates the data transfer in response

to a reset signal provided by an external reset controller (figures 1A, 4A, 7, 8, reset signal 76

comes from an external source).

11.   With respect to claim 11, Baltz discloses a processor system power-up method

comprising:

        detecting a power-up condition and providing a reset signal to a synchronous memory

(abstract and col. 1, lines 25 – 29);

        initiating a direct data transfer from a non-volatile memory to the synchronous memory

in response to the reset signal (abstract); and

        providing a system reset signal from the synchronous memory to a processor upon

completion of the direct data transfer (col. 7, lines 56 – 60).

12.   With respect to claims 12, the synchronous memory device is an SDRAM (col. 6, lines 7

– 8).

13.   With respect to claim 15, the method further comprises loading the non-volatile memory

with the processor prior to detecting the power-up condition (figure 8, 671, EPROM is loaded

with a boot code prior to the power-up).

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

15.   Claims 4, 6 – 9, 14, 16 – 19, rejected under 35 U.S.C. 103(a) as being unpatentable over

Baltz in view of Harari *et al.*(US Patent No. 6,266,724, hereinafter "Harari").

Baltz discloses a method of improving a processor system power-up comprising:

detecting a power-up condition with a reset controller and providing a reset signal to an

SDRAM;

using the SDRAM, initiating a direct data transfer from an EPROM memory to the

SDRAM in response to the reset signal via a bus; and

providing a system reset signal from the SDRAM to a processor after the data has been

transferred (see the rejections above).

However, Baltz does not specifically disclose the use of a flash memory for non-volatile

memory coupled via a serial bus. On the other hand, Harari discloses a processor system that

loads data from a flash memory (figure 7) via a serial bus (col. 7, Lines 34 – 36).

It would have been obvious to one of ordinary skill in the art, having the teachings of

Baltz and Harari before him at the time the invention was made, to use the flash memory and

decompression teachings of the computer system that loads data from a flash EPROM of Harari

in the computer system that loads data from an EPROM of Baltz, in order to provide a removable

PC card that can accommodate components offloaded from the host system to minimize the size

and cost of the host system and to provide flexibility in system configuration (Harari, col. 3, 31 –

35).

16.   With respect to claims 18, the synchronous memory device is an SDRAM (col. 6, lines 7

– 8).

17.   Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baltz in view of

Shin (US Patent No. 6,735,669).

Baltz discloses all of the limitations of the parent claim as discussed above. However,

Baltz does not specifically disclose the use of a RDRAM. On the other hand Shin discloses that

a RDRAM has various operational modes for low power system operation (Shin, col. 1, lines 16

– 20).

It would have been obvious to one of ordinary skill in the art, having the teachings of

Baltz and Shin before him at the time the invention was made, to use the lower power

consumption RDRAM teachings of Shin in the computer system of Baltz, in order to reduce the

overall system power consumption. Reduce power consumption is especially important in

battery operated portable computer systems.

18.   Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baltz in

view of Harari as applied to clams 6 and 19 and further in view of Shin.

Baltz and Harati disclose all of the limitations of claims 6 and 19 as discussed above.

However, Baltz and Harati do not specifically disclose the use of a RDRAM. On the other hand

Shin discloses that a RDRAM has various operational modes for low power system operation

(Shin, col. 1, lines 16 – 20).

It would have been obvious to one of ordinary skill in the art, having the teachings of

Baltz, Harati and Shin before him at the time the invention was made, to use the lower power

consumption RDRAM teachings of Shin in the computer system of Baltz and Harati, in order to

reduce the overall system power consumption. Reduce power consumption is especially

important in battery operated portable computer systems.

Response to Amendment

19.   Claims 12, 13 and 18 have been amended to overcome objections. Corresponding

objections are withdrawn.

Response to Arguments

20.   Applicant's arguments filed September 9, 2004, have been fully considered but they are

not persuasive.

21.   Applicant argues that since the copending application claims decompression capability

within the flash memory device and the instant application does not, they are different inventions

and therefore, not subject to double patent rejections. The two applications may be claiming two

different inventions, but this does not change the fact that the instant application claims obvious

variations of a subset of the subject matter claimed in the copending application. Additional

features claimed in the copending application are irrelevant since the copending application also

claims the subject matter claimed in the instant application. Examiner also notes that these

applications were not subject to restriction requirements.

22.   Applicant's arguments again the Baltz reference are not persuasive. First of all,

Applicant has not claimed a **direct** connection as argued. Specific use of the modifier **direct** in

front of connection leads the Examiner to believe that a connection without the modifier direct in

the claim language is not necessarily a direct connection. Secondly, Baltz discloses or at least

suggests such a connection. Contrary to Applicant's assertion that the DMA process requires

intervention by the processor and uses a system bus that is accessible by all components of the

system, which is irrelevant since a shared system bus can still connect two components directly

and Applicant has not claimed a dedicated bus, Baltz's memories are connected via an external

bus 73 (see figure 8 and abstract) without any other intervening device. The Examiner also notes

that the acronym DMA stands for **"direct memory transfer."** Fifth edition of the Computer

Dictionary published by MICROSOFT defines DMA as "memory access that does not involve

the microprocessor and is frequently used for data transfer directly between memory and ..."

23.   Applicant's second argument regarding the Baltz reference is not persuasive either.

Applicant argues that the "reset signal is generated by the DMA controller in the CPU and not

from any memory device." DMA controller is a memory control device that properly belongs

with the memory array itself. Figure 8 shows them grouped together (aligned and in close

proximity) and the rejections clearly identify the memory 23 and the DMA controller 100

grouped together as the memory device.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Woo H. Choi whose telephone number is (571) 272-4179. The

examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matt Kim can be reached on (571) 272-4182. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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November 1, 2004

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